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TELECOPIER TRANSMITTAL FORM

DATE: January 12, 2005
TO: **Examiner Trenton J. Roche**
FIRM: USPTO, Group Art Unit 2124
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TOTAL NUMBER OF PAGES: 11
(INCLUDING THIS PAGE)

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MESSAGE:

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Victor R. HERRERO
Serial No.: 09/896,657
For: AUTOMATED ENTITLEMENT VERIFICATION
FOR DELIVERY OF LICENSED SOFTWARE

Dear Examiner Roche:

Pursuant to your telephone request, attached please find a copy of the 37 C.F.R. §1.131 Declaration with supporting documents (10 pgs.) filed with our Response with Amendment on October 14, 2004.

If you have any questions, please do not hesitate to contact us.

Sincerely,

Karen Taragowski

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PAGE 1/11 * RCVD AT 1/12/2005 12:16:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733733 * CSID:561 989 9812 * DURATION (mm-ss):07-24

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
Victor R. HERRERO)	
Serial No.: 09/896,657)	Group Art Unit: 2124
Filed: June 29, 2001)	
For: AUTOMATED ENTITLEMENT)	Examiner: Trenton J. Roche
VERIFICATION FOR DELIVERY OF)	
LICENSED SOFTWARE)	
)	

37 C.F.R. § 1.131 DECLARATION

I, the undersigned, am the Applicant for the above-identified patent application and hereby declare the following:

1) The pending claims of my above-identified patent application were rejected under 35 U.S.C. §102(e) and 35 U.S.C. § 103(a) based on U.S. Publication No. 2002/0174422 to Kelley et al., entitled "Software Distribution System" which filed on September 26, 2001 and is based on a provisional application filed on September 28, 2000 ("Kelley").

2) The invention claims in the above-identified patent application were reduced to writing in the United States prior to the September 28, 2000 priority date of the Kelley reference. Attached hereto is the relevant portion of an Invention Disclosure on which the above-identified patent application was based. This Invention Disclosure was prepared prior to September 28, 2000.

I, the undersigned, hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Victor R. Herrero   Signature: _Victor R. Herrero_   Date: _8/11/04_

POU920010051US1   Page 1 of 1   09/896,657

Disclosure POU8-2000-0159

Created By: Victor Herrero   **Created On:**
Last Modified By: Patricia L.Cramer   **Last Modified On:**

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Required fields are marked with the asterisk (*) and must be filled in to complete the form .

Summary

Status	Under Evaluation
Processing Location	POU
Functional Area	415 - GS - Global Services (Carrubba)
Attorney/Patent Professional	Floyd Gonzalez/Poughkeepsie/IBM
IDT Team	Jim Carrubba/Poughkeepsie/IBM
Submitted Date	
Owning Division Select	GS
PVT Score Calculate	37
Incentive Program	
Lab	
Technology Code	

Inventors with Lotus Notes IDs

Inventors: Victor Herrero/Poughkeepsie/IBM

Inventor Name > denotes primary contact	Inventor Serial	Div/Dept	Manager Serial	Manager Name
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IDT Selection

IDT Team	Attorney/Patent Professional
Jim Carrubba/Poughkeepsie/IBM	Floyd Gonzalez/Poughkeepsie/IBM

Response Due to IP&L	

Main Idea

Title of disclosure (in English)

Automated Entitlement Verification for Delivery of Licensed Software

Idea of disclosure

1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of using the invention.

Corporations face a challenging task in controlling the installation of purchased software products (hereafter referred to as "vendor products"). Every employee that installs a vendor product on their

POU8-2000-0159 Automated Entitlement Verification for Delivery of Licensed Software - continued

workstation must be "entitled" to perform the installation (i.e., he must have a valid license for the vendor product). If a corporation uses a software delivery application to install vendor products on employee workstations in a standardized manner, then the software delivery tool must perform the entitlement verification function before allowing users to install the products (with the exception of vendor products for which corporate licenses are obtained). Commercial software delivery applications currently available on the market either fail to address the need for entitlement verification for delivery of vendor products (the customer is responsible for license management in general) or implement it via mechanisms that require burdensome, manual efforts by administrators of the software delivery application. The invention disclosed below provides an automated mechanism for corporations to perform entitlement verification introducing the following benefits: (1) customers can order media-free (license only) vendor products, (2) vendor software can be delivered to entitled customers in a centrally managed, standardized manner, and (3) administrators of the software delivery mechanism can enable entitlement verification of vendor application packages with very minimal effort.

2. How does the invention solve the problem or achieve an advantage,(a description of "the invention", including figures inline as appropriate)?
The invention solves the problem by providing an interface for the software delivery application to receive license keys from software vendors.

Description of process:

1. The software vendor chooses unique product numbers for the media-free (license only) software products to be packaged on the software delivery application. If multiple vendors are used, then uniqueness across vendors must be enforced by assigning product number ranges or product number prefixes.

2. Administrators of the software delivery application must keep track of the relationship between the software packages and the vendor product numbers. This can be accomplished by storing the information in the software packages delivered by the tool (when the packages are created) or by maintaining a table that correlates package identifiers to vendor product numbers.

3. When an employee places an order, the software vendor mails the employee the product information and license key (preferably via e-mail), and sends a transaction to the software delivery application indicating the product number and newly assigned license key. Ideally, this function would be automated on the vendor's order processing environment. Transactions would be sent to the software delivery application either in real-time, or in nightly batches.

4. The software delivery application provides a generic interface which receives the vendor transactions and stores the valid product number/license key combinations in entitlement tables. The tables can be implement in a variety of ways, the most convenient being flat files or database tables.

5. When a customer attempts to install a software product on his workstation, the software delivery application prompts him for a license key. Once the customer provides the key, the software delivery application verifies that the product number/license key combination is valid by checking the entitlement tables.

6. If the license key is valid, the installation is allowed to take place.

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?
As stated in question 1, commercially available software delivery applications either provide no solution or

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provide mechanisms that involve burdensome, manual efforts by administrators of the software delivery application. A typical example follows.

A software delivery application might enforce entitlement by allowing administrators to create "policy groups". A policy group would specify that members belonging to the group are allowed to install a particular vendor product. The burden of maintaining the different policy groups (e.g., one per product?) and membership in the group is placed on the administrators of the software delivery application. The proposed invention is clearly superior. Once the administrator creates the package-to-vendor product relationship, the maintenance of license keys which are used to control entitlement is fully automated.

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.
The proposed invention was implemented in an IBM internally developed software delivery application, i.e., the IBM Standard Software Installer (ISSI), on 6/30/2000. ISSI provides a centrally managed Web-based software catalog, i.e., http://w3.ibm.com/download/standardsoftware,which delivers standard software packages to IBM employees world-wide. In the ISSI environment, entitlement verification is performed as described in question 2. Details follow.

Entitlement Verification Description
When attempting to install a vendor product, the user must enter a license code on the corresponding package's installation Web page. When the user kicks off the installation, by pressing the Install Now button on the package's installation Web page, the ISSI CGI which script runs on the ISSI Web server verifies that the supplied license code is valid for the selected package. The ISSI CGI script looks up the license code entered by the user in a product specific entitlement table stored at the Web server. If the license code is valid, the installation is allowed to take place.

Creation of the Product Specific Entitlement Tables
ISSI currently obtains the license keys required to determine entitlement from an external software vendor, i.e. Software House International. When an IBM employee orders a media-free (license only) vendor product, SHI sends the user the product information and license key via e-mail and stores product number/key transactions in a file for nightly batch processing. The transactions are collected by an ISSI agent that generates product specific entitlement tables and places the tables on the ISSI Web site (in a protected directory accessed only by ISSI components).

*Critical Questions (Questions 1 - 7 must be answered)

Question 1
On what date was the invention workable? 06/04/2000 Please format the date as MM/DD/YYYY.
Workable means i.e. when you know that your design will solve the problem.

Question 2
Is there any planned or actual publication or disclosure of your invention to anyone outside   ○ Yes
IBM?   ● No

If yes, Enter the name of each publication or patent and the date published below.
Publication/Patent:
Date published/issued:

Are you aware of any publications, products or patents that relate to this invention?   ○ Yes
                                                                                                 ● No

If yes, Enter the name of each publication or patent and the date published below.

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Automated Entitlement Verification for

Delivery of Licensed Software

Invention Disclosure POU8-2000-0159

Document Number: 1.0

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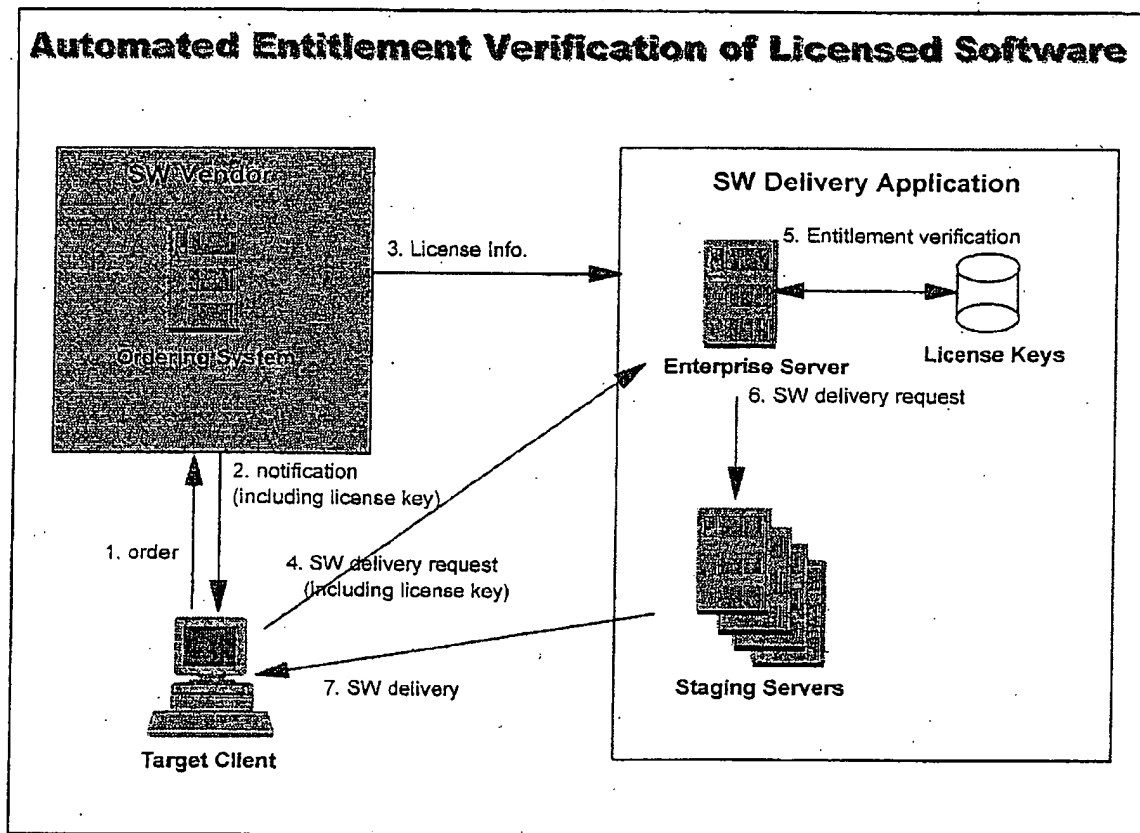
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Diagrams

Figure 1 - Automated Entitlement Verification for Delivery of Licensed Software.

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Background

Corporations face a challenging task in controlling the installation of licensed software products. Every employee that installs a vendor product on their workstation must be "entitled" to perform the installation. That is, the employee must have a valid license for the software product. Commercially available software delivery applications currently on the market either fail to address the need for entitlement verification for delivery of licensed products or implement it via mechanisms that require burdensome and highly administrative.

Current approaches fall under two categories. The first involves adding either internal or external logic to the software product or its corresponding package. Typically, the user is prompted to enter a license key when he invokes the software product. The license key may be verified locally (e.g., the license key is embedded in the product or package) or via a communication with a license server. The second involves the definition of some type of policy group at the software distribution application. Users that belong to the appropriate policy groups are allowed to install the corresponding licensed software products. In all cases, current approaches require relatively heavy administrative workloads.

The approach described below provides an automated mechanism for corporations, which use centrally managed, enterprise-wide, software delivery applications, to install licensed software products on employee workstations in a standardized and cost-effective manner.

Summary

Corporations, which use centrally managed, enterprise-wide, software delivery applications, can setup an automated mechanism to perform entitlement of licensed software introducing the following benefits:

- Employees can order media-free (license only) software products from contracted software vendors.

- The software delivery application can delivery licensed software to entitled employees in a centrally managed, automated, standardized manner.

- Since entitlement is performed by the software delivery application, neither the software product nor the software package is required to contain any licensing information, or any internal or external logic that performs entitlement checks.

- Administrative tasks, associated with the creation and management of license keys, by administrators of the vendor order system and the software delivery application are significantly minimized.

- The invocation and behavior of licensed software products are unaffected by the need to perform entitlement verification.

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The automated mechanism consists of the following components:

- A license key generation utility that runs at contracted software vendor ordering systems.

- A generic interface used by the software delivery application to receive licensed product information from contracted software vendors.

- An auditing utility used by the software delivery application to ensure that employees are entitled to install licensed software before allowing installations to take place.

Details

The automated mechanism, which may be used by centrally managed, enterprise-wide, software delivery applications to perform entitlement verification for the delivery of licensed software products, is depicted in figure 1 and described below.

The corporation, which uses the software delivery application, must contract one or more software vendors from which employees can purchase a predefined set of media-free licensed software products. The corporation must also negotiate the use of a predefined set of part numbers for the licensed software products. The corporation must require the software vendors to incorporate a license key generation utility in their ordering systems that transmits license key information to the customer and to the software delivery application. If multiple software vendors are contracted, the corporation may wish to enforce license key uniqueness across vendors by assigning license key ranges or prefixes to individual software vendors. The administrators of the software delivery application are required to define a relationship between the negotiated software product part numbers and the corresponding software packages. The relationship is required so that license keys can be correlated to the appropriate packages when received by the software delivery application. This is typically accomplished by maintaining a flat file or database table that correlates package identifiers to software product part numbers.

When an employee places an order for a media-free licensed software product from a contracted software vendor (figure 1, step 1), the software vendor's ordering system generates a unique license key for the order. The vendor's ordering system e-mails the order information to the employee (figure 1, step 2), including (at a minimum): (1) the product name, (2) the product number, and (3) the required license key. The software vendor ordering system sends a transaction to the software delivery application (figure 1, step 3) which includes (at a minimum) the following information: (1) the product number, and (2) the license key. The implementation for the generic interface between the software vendors and the software delivery application can vary. For example, the transactions can be sent in real-time or in nightly batches. The software delivery application stores the license keys in entitlement tables. The tables can also be implemented in a variety of ways, the most convenient being flat files or database tables.

When the employee receives the order information from the vendor, he can shop for the software at the software delivery application. When the employee requests the delivery of a licensed software product (figure 1, step 4), the software delivery application requires the employee to supply a license key. The software delivery application performs entitlement verification by

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comparing the license key to the valid list of license keys stored in the entitlement files (figure 1, step 5). If the license key supplied by the employee is invalid, the user is warned and the software delivery is not allowed to take place. If the license key is valid, the software delivery request is passed to a local staging server (figure 1, step 6) and the software delivery is allowed to take place (figure 1, step 7).

The automated mechanism allows the software delivery mechanism to perform entitlement verification for licensed software products independently of the software product or its corresponding software package. The mechanism eliminates the need for the software products or their corresponding software packages to contain any entitlement features (internal or external logic that performs entitlement). Additionally, the behavior or invocation of licensed software is not affected in any way. The employee workstation is not required to contain any additional software. And, the cost of administering licensed software products and associated licensing information is greatly minimized both at software vendors' ordering systems and at the software delivery application.

Details of Current IBM Implementation

The proposed invention was implemented in an IBM internally developed software delivery application, i.e., the IBM Standard Software Installer (ISSI), on 6/30/2000. ISSI provides a centrally managed Web-based software catalog, i.e., http://w3.ibm.com/download/standardsoftware, which delivers standard software packages to IBM employees worldwide. In the ISSI environment, the automated entitlement verification mechanism is implemented as follows.

Entitlement Verification Description
When attempting to install a licensed software product, the user must enter a license code on the corresponding package's installation Web page. When the user kicks off the installation, by pressing the Install Now button on the package's installation Web page, the ISSI CGI which script runs on the ISSI Web server verifies that the supplied license code is valid for the selected package. The ISSI CGI script looks up the license code entered by the user in a product specific entitlement table stored at the Web server. If the license code is valid, the installation is allowed to take place.

Creation of the Product Specific Entitlement Tables
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Automated Entitlement Verification of Licensed Software